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Title : Pristine population size of Saimaa ringed seal

Category : Conservation

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Abstract : The endangered Saimaa ringed seal (*Phoca hispida saimensis*) population only lives in Lake Saimaa. Lake Saimaa 4380 km² is actually a lake complex, split into smaller lakes, which are separated from each other by narrow straits. The present population size is ca 250 seals and there was a minimum sized population of ca 180 seals in late 1980's.

Several methods were used to estimate the pristine population size in a relatively small living area for the seal population. The backcasted maximum population size of 1300 animals in the year 1893 reflected a density of ca 0.30 seals per km². At present the densest population (0.88- 1.12 seals/ km²) were found in the small (25 km²) Kolovesi national park. An extrapolation, based on Lake Kolovesi, gives a potential total population size in Lake Saimaa of about 3800 - 4900 seals.

The carrying capacity of Lake Saimaa which is roughly estimated by mean productivity in the main food species, vendace, and corresponds to ca 6300 seals in the lake (1.44/ km²). By estimating the potential amounts of the shoreline lairsites and density of lairsites use at present in the main breeding areas, Lake Saimaa provides at least 10700 lairsites, corresponds to ca 5350 seals (1.21/km²). Probably the pristine population size in Lake Saimaa was around 6.000 seals, which is relatively small size for a seal population.